

IN THE CLAIMS

1. (previously presented) A smart card loading system for loading value over a wireless telecommunications network onto a smart card, said smart card loading system comprising:

a smart card;

a mobile telephone handset in communication with said telecommunications network, said handset including a subscriber identification module (SIM) that is separate from said smart card and functions to allow a user to access said telecommunications network, a smart card reader for communicating with said smart card when said smart card is inserted in said handset, and an input interface for indicating a value to be loaded onto said smart card, said handset being arranged to generate a request message to load said value onto said smart card and to receive a response message to load said value onto said smart card, wherein said response message is implemented as an alphanumeric message integrated within a Short Message Service (SMS) message of said telecommunications network, said alphanumeric message serving as a command input to said smart card used to control operation of said smart card;

a gateway computer arranged to receive said request message from said handset over said telecommunications network and to retransmit said request message, said gateway computer being further arranged to receive said response message and to retransmit said response message to said handset;

a funds issuer computer arranged to receive said request message and to debit a consumer account associated with said smart card; and

an authentication computer arranged to receive said request message and to authenticate said smart card, said authentication computer being further arranged to generate said response message for transmission to said gateway computer, whereby said smart card is authorized to load said value via said handset.

2. (Canceled)

3. (Canceled)

4. (Original) A smart card loading system as recited in claim 1 wherein said authentication computer authenticates said smart card using a first cryptographic signature and generates a second cryptographic signature to authenticate a load response, whereby said transaction is secured.

5. (Previously presented) A smart card loading system for loading value over a wireless telecommunications network onto a smart card, said smart card loading system comprising:

a smart card arranged to validate cryptographic certificates;

a mobile telephone handset in communication with said telecommunications network and arranged to accept said smart card, said handset including a subscriber identification module (SIM) that is separate from said smart card and functions to allow a user to access said telecommunications network, a smart card reader for communicating with said smart card when said smart card is inserted in said handset, and an input interface for indicating a value to be loaded onto said smart card, said handset being arranged to generate a funds request message which includes an authorization request certificate and being arranged to receive an authentication response certificate in order to load said value onto said smart card;

a gateway computer arranged to receive said funds request message from said handset over said telecommunications network and to retransmit said funds request message, said gateway computer being further arranged to receive said authentication response certificate and to retransmit said authentication response certificate to said handset;

a funds issuer computer arranged to receive said funds request message, to authenticate said smart card using said authorization request certificate, and to generate an authentication response certificate for delivery to said smart card via said gateway computer, whereby said smart card validates said authentication response certificate received via said mobile telephone handset and loads said value.

6. (Canceled)

7. (previously presented) A smart card loading system as recited in claim 5 wherein said authentication response certificate is implemented as an alphanumeric message integrated within a Short Message Service (SMS) message of said telecommunications network, said alphanumeric message serving as a command input to said smart card used to control operation of said smart card.

8. (Original) A smart card loading system as recited in claim 5 wherein in response to a successful load, said handset is arranged to generate a transaction certificate to be used for irreputiation.

9. (Previously presented) A method of loading value over a wireless telecommunications network onto a smart card, said method comprising:

receiving at a mobile telephone handset with a subscriber identification module a request from a user to load a value onto said smart card inserted in said handset;

generating a funds request message which includes said value;

sending said funds request message over said telecommunications network to a funds issuer computer arranged to debit an account associated with said user;

generating a load request message including a first cryptographic signature;

sending said load request message over said telecommunications network to an authentication computer arranged to authenticate said smart card;

receiving a response message which includes a second cryptographic signature and an approval to load; and

validating said second cryptographic signature; and

loading said value onto said smart card.

10. (Canceled)

11. (previously presented) A method as recited in claim 9 wherein said response message is implemented as an alphanumeric message integrated within a Short Message Service (SMS) message of said telecommunications network, said alphanumeric message serving as a command input to said smart card used to control operation of said smart card.

12. (Previously presented) A method of loading value over a wireless telecommunications network onto a smart card, said method comprising:

receiving at a mobile telephone handset with a subscriber identification module a request from a user to load a value into a stored-value application of said smart card inserted in said handset;

opening a second application on said smart card capable of funding said stored-value application;

generating a funds request message which includes said value and an authorization certificate;

sending said funds request message over said telecommunications network to a funds issuer computer arranged to authenticate said second application and to generate an authentication response certificate;

receiving through the mobile telephone handset to the smart card a response message which includes said authentication response certificate;

validating said authentication response certificate; and

loading said value onto said stored-value application of said smart card from said second application.

13. (Canceled)

14. (previously presented) A method as recited in claim 12 wherein said response message is implemented as an alphanumeric message integrated within an Short Message Service (SMS) message of said telecommunications network, said alphanumeric message serving as a command input to said smart card used to control operation of said smart card.

15. (Original) A method as recited in claim 12 further comprising:

generating a transaction certificate to be used for irrepudiation.

16-22. (Canceled)

23. (previously presented) A smart card loading system as recited in claim 1 wherein said response message generated remotely from said mobile telephone handset and intended for said smart card is implemented as an alphanumeric message and is integrated within an SMS message of said telecommunications network, said alphanumeric message serving as a command input to said smart card used to control operation of said smart card.

24. (Previously presented) A method as recited in claim 9 further comprising:
removing said smart card from said handset;
placing said removed smart card into association with a smart card reader; and
using said smart card reader to debit said smart card to perform a purchase.

25. (Previously presented) A method as recited in claim 12 further comprising:
removing said smart card from said handset;
placing said removed smart card into association with a smart card reader; and
using said smart card reader to debit said smart card to perform a purchase.